
V. *Remarks on Lichen scaber and some of its Allies.* By the Rev.
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ACCURACY and certainty, in the science of Natural History, are attainable but by gradations, and those sometimes minute, and of apparently little importance: any error therefore obviated, or discovery made, however trifling either may seem, may prove a step toward obtaining those ends.

I feel confident that the very respectable names, which I must quote in the following essay, men of science and candour, whose main objects, in their researches, are the ends above stated, will pardon the liberty, which I must necessarily take, in observing a few mistakes with regard to two or three subjects now under consideration.

A late accidental recovery, in Mr. Brewer's own original habitat, near Borth, &c. of his plant, which is described by Dillenius in his *Hist. Musc.* at page 66, *Sp.* 8. "*Usnea lanæ nigræ instar saxi adhærens,*" which is mentioned again at p. 113, and figured in *tab. xiii. fig. 8*, has been productive of the following observations, which, perhaps, may not be thought unworthy of the notice of the Linnean Society, as they may assist in ascertaining decisively two or three plants in the said work of Dillenius, and in dispelling a mist which has lately obscured them.

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Not a little confusion has prevailed with regard to this plant: Linnæus refers to it, and it only, for his *Lichen lanatus*; Lightfoot does the same; nor does Hudson refer to any other figure. But I am convinced that it is neither Linnæus's nor Hudson's plant: the word "decumbens" in the definition by each author, and "ramulis brevissimis divaricatis" in that of Hudson, seem to confirm my notion, and to point out *f. 32. of t. xvii. of Dillenius*, which is the *lanatus* of *English Botany*, 846. Hudson's observation on his *L. pubescens*, viz. "affinis præcedenti (*lanato* sc.) sed minor," confirms me still more strongly in my opinion that *f. 8. t. xiii.* is not Hudson's *lanatus*, as *f. 9. t. xiii.* which Linnæus refers to for his *pubescens*, and whom Hudson quotes, has evidently no affinity to *f. 8. t. xiii.* But let me observe that without doubt this latter is Lightfoot's *L. lanatus*, although he gives us the same definition as Linnæus does. The latter part of Lightfoot's description of it is, I believe, his own, and very accurate; it runs thus, "many short fine capillary fibres, like spinules, grow horizontally out of the sides of the filaments." *Fl. Scot. v. 2. p. 893.* This is truly characteristic of Brewer's plant. Professor Acharius, *Lich. Suec. Prodr.* and after him Dr. Smith in *Eng. Bot.* likewise unfortunately quote it for their *L. lanatus*, in conjunction with *f. 9. t. xiii.* and *f. 32. t. xvii.* whereas the two last, as we presently shall see, are perfectly distinct from the former. The learned authors, now mentioned, moreover introduce the *L. scaber* of Hudson, i. e. the *exilis* of Lightfoot, as the same species, which I shall also prove to be very different from the other three, viz. from *f. 8.* and *f. 9. t. xiii.* and *f. 32. t. xvii.*

Now my readers, who have at all attended to these subjects, will perhaps not expect to be told that Mr. Brewer's plant, above quoted, viz. *f. 8. t. xiii. Dill.* is the very identical *L. bicolor* of the present day. Notwithstanding I was fully confident of my
correctness

correctness in this point, from Dillenius's descriptions of Brewer's plant, at p. 66, "colore nigro et fusco variantem," and again p. 113. under species 32 (differentia) "cum illa nervum medium crassiorem habeat, &c." and the circumstance of my having found Brewer's plant, as above stated; yet, wishing to speak with all possible certainty on the subject, I applied to Dr. Williams, Professor of Botany at Oxford, for what information he might be able to give me concerning the subjects under contemplation. That gentleman, with all readiness, and the most polite attention, supplied me with sufficient instruction, and subjects out of Dillenius's own Herbarium, to preclude every possibility of mistake or doubt. The specimen corresponding with *f. 8. t. xiii.* is precisely what I found in Brewer's habitat, *i. e.* *LICHEN bicolor*, which appears in *Eng. Bot. t. 1853.*

This one species being determined, let me now proceed with the other three plants included under the specific name *lanatus*, in *Lich. Suec. Prodr.*, and likewise in *Eng. Bot.*, as above quoted, *viz. f. 9. t. xiii.—f. 32. t. xvii.* Dill. and *L. scaber* of Hudson.

LICHEN lanatus of Acharius, and that represented in *Eng. Bot.*, pl. 846, is, without doubt, "*Coralloides tenuissimum nigricans, mundi muliebris instar textum.*" *Dill. p. 113. f. 32. t. xvii.* The figure is, by mischance, taken from a diminutive specimen; but the descriptions of it by Dillenius, Acharius, and Smith, accord well in the general, and convey an uniform consistent idea: a part of that of Dillenius is as follows; "in latum sparsa, caule crassiore destituta:" again, "hujus ramuli primarii per dichotomiam dividuntur et extrema cornicula, quæ brevissima, bifida plerumque sunt," &c. Acharius's definition p. 216. runs thus, "*Caulescens solidus teres læviusculus fusco-niger decumbens cæspitosus, ramis filiformibus implicatis repetito dichotomis.*"

mis." *English Botany* has this: "Shrubby, filamentous, much branched, intricate, round, solid, smoothish, brownish black, shields of the same colour, flat, with an irregularly toothed margin."

These descriptions are certainly characteristic, with the exception only of the word "caulescens" in the one, and "shrubby" in the other, of the two latter, wherein a confused glance of *L. bicolor* seems to obtrude itself on the true *lanatus*.

Acharius's definition of his *L. lanatus*, when referred to this figure, being, as I have observed, accurate, it is no wonder, when he quotes *f. 8. t. xiii.* for the same, that he should say, "Icon minus bona," whereas it is an excellent representation of the plant which it is intended for, *viz. L. bicolor*, if we except indeed one impropriety, I mean its procumbent appearance on the plate, which may tend to mislead, as the plant is invariably upright, as I have seen it in Anglesey and Caernarvonshire, and has a shrub-like appearance.

These two species being, I trust, satisfactorily settled, I will now proceed by observing, that I am enabled to affirm, after an attentive and strict examination of the very plant which Dillenius received from Greenland, and which is marked with his own handwriting as such, that *f. 9. t. xiii.* is the very same species with *f. 32. t. xvii.* This Linnæus refers to for his *L. pubescens*, and consequently Lightfoot is right in referring to 32. xvii. for that same species. But as we have just now seen that 32. xvii. is the true *L. lanatus*, it will follow that 9. xiii. being the same plant, *L. pubescens*, as a species, proves to be nobody. And so far the above-named authors, Prof. Acharius and Dr. Smith, are right in quoting the two for the same species as *LICHEN lanatus*.

Lastly comes *L. scaber* of Hudson to be considered, whose reference

ference to *f. 9. t. xiii. Dill.* is assuredly wrong; nor is there, I suppose, a figure of it extant. "*Fila glabra splendentia*," as Dillenius has it, cannot agree with "*scabra*" in Hudson's definition. Furthermore, concerning this plant, which seems to have escaped the notice of Dillenius, I can speak with all confidence, as Mr. Hudson described it from a plant which I gave him, and which, as far as I can learn, was the only one that had ever been found in fructification, except one other which I at this time have in my possession. Both these specimens I gathered in company with Mr. Hudson, the same morning, in one of our rambles among the Arvonian alps.

Mr. Lightfoot's description of this species, under the name *exilis*, is characteristic, and just, as far as he, not having seen the fructification, could give it.

I cannot take leave of these figures of Dillenius, so often quoted, without observing that, as to Linnæus's reference to *f. 32. t. xvii.* as his *varietas* γ of *L. islandicus*, I think there cannot be a doubt of its having been an oversight of the moment, and that he must have meant *fig. 31*, which has a strong affinity to *fig. 112. t. xxviii. Dill.* which is his *var. β* of the *islandicus*. Indeed his habitat of it, *Sp. Pl.* 1612, "*frequens in sterilissimis collibus Sueciæ*," (whereas n. 32 is found on rocks only) and the particulars, "*ramuli intus cavi, color luridus, basis rubra*," &c. in his description, *l. c.*, contribute to confirm fully my conjecture.

On a review of the discussion above, amidst all the confusion which presents itself, of which, I am sorry to observe, still more occurs in Withering's *Arrangement*, under the trivials *lanatus* and *pubescens*, we may deduce the following conclusions.

I. *Fig. 8. t. xiii. Dill.*, is *LICHEN bicolor* of Gmelin, *Linn. Syst. p.* 1379, who defines it well in these words; "*L. ramosissimus erectiusculus teres inarticulatus glaber inanis nitidus infra*

nigricans supra sordide albus, ramis patentissimis subulatis." Consequently *L. saxosus* of this author, p. 1378, for which he refers to the above-quoted figure, with a concise vague definition, "*L. niger durus*," should be omitted. It is likewise *L. bicolor* of Acharius, *Prodr.* p. 215, whose description of it is excellent, and as follows: *L. caulescens solidiusculus erectus rigidus fruticulosus ater, summitatibus cinereofuscis, ramis fibrillosis diffusis vagis attenuatis.*" As is also that of Smith, *Eng. Bot.* 1853. "*L. bicolor*, black and grey shrubby Lichen." SPEC. CHAR. Shrubby, solid, erect, rigid, round, black, with numerous, spreading, compound, capillary, tapering branches, whose upper parts are grey." But it is *L. lanatus* of Lightfoot, *Fl. Scot.* p. 892. It is likewise n. 1967, *Hall. Helv.* who refers to this figure, as well as to *L. lanatus* of Linnæus: but it is curious to observe how Haller omits the word "decumbens" in Linnæus's definition, to accommodate it to his shrublike plant. The unlucky reference of Linnæus to this figure, for his *L. lanatus*, has propagated an error through a series of almost numberless volumes.

II. *Fig. 9. t. xiii. and f. 32. t. xvii.*, as we have proved them to be one and the same species, will be the true *LICHEN lanatus* of Linnæus, of Hudson, of Acharius and of Smith. It is indeed the *pubescens* of Lightfoot, 893; but which, as a species, proves, from what has been said, to be a phantom, and vanishes.

III. *Fig. 31. t. xvii.* is *var. γ* of *LICHEN islandicus* Linn.; but is the *hispidus* of Lightfoot, Gmelin *Syst.*, Smith *Eng. Bot.*, Withering, and Sibthorp, but the *aculeatus* of Acharius, *Prodr.* 213.

IV. And lastly, *LICHEN scaber* of Hudson, *Fl. Ang.* 562, which is the *exilis* of Lightfoot, and has been erroneously quoted for, or as a variety of *L. lanatus*, stands firmly as a distinct and well defined species, under the following definitions; "*L. (exilis) filamentosus ramosissimus cæspitosus, filamentis capillaceis implexis*"

plexis opacis scabris." Lightf. *Fl. Scot.* 894.—" *L. (scaber)* filamentosus ramosissimus decumbens implexus scaber, scutellis concavis integerrimis." Huds. *Fl. Angl.* 562.

At last, I cannot conclude without expressing my suspicion of the accuracy of some of the synonyms quoted by Dillenius for Species 8. p. 66. f. 8. t. xiii. v. g. *Syn. St. Br.* p. 65. n. 3. " *Muscus coralloides lanæ nigræ instar saxi adhærens.*" D. Stevens.—" *Præcedenti (L. chalybeiformi sc.) ramosior et majus expansus, minus vero rigidus.*" This short comparative description, as well as Dillenius's own definition, "*Usnea lanæ nigræ instar saxi adhærens,*" and his description, "biunciali et triunciali nostra specimina longitudine sunt, filamentis ubique teretibus, magis atris et magis confertis, quoquoversus sparsis et invicem implexis," &c. convey a much juster idea of a full sized specimen of f. 32. t. xvii. than of Mr. Brewer's plant; particularly to such as have seen both plants in a growing state; and seem to intimate that even the great Dillenius himself laboured under some degree of illusion in this instance. But f. 8. t. xiii. is a good representation; and that part of Mr. Stevens's definition above quoted, "*Muscus coralloides lanæ &c.,*" is likewise characteristic of Mr. Brewer's plant, which is there introduced, that is *LICHEN bicolor*.

H. D.